

DEC 26 2006

## REMARKS

Claims 1-15 were examined. By this amendment, Applicants cancel Claim 14, since the language of Claim 14 parallels the language of Claim 13 and is encompassed within the language of Claim 13. Applicants herein add Claims 16-20. Claims 1-15 stand rejected under 35 USC 101 as being directed to non-statutory subject matter, and, under 35 USC 102(b) as being anticipated by the teachings of the Bacon reference. For the reasons set forth below, and in light of the present amendments, Applicants contend that the claims are patentable.

In response to the rejections under 35 USC 101, Applicants respectfully assert that the claims recite statutory subject matter. The claims recite a computer-implemented method (Claims 1-12 and 16-18), a computer program storage medium (Claims 13 and 19) and a computer apparatus (Claims 15 and 20) for creating a compressed trace of a program for storage and subsequent use in optimizing the program. Applicants respectfully assert that the trace is a useful, concrete and tangible result, which can be stored and used in effecting program optimization. Moreover, storage of the trace results in a physical transformation at the memory location. The claims

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have been amended to appropriately recite that the trace is generated for storage, as supported by the original specification at page 7, lines 14-16 and page 8, lines 19-20. Applicants believe that the claims appropriately recite statutory subject matter.

With regard to the rejections under 35 USC 102(b) as anticipated by Bacon, Applicants respectfully traverse the rejection. The Bacon reference is directed to program compiling and not to tracing memory references during runtime of a program. In the cited teachings found on page 402, Bacon discusses a trace scheduling alternative of having the compiler identify paths through the control flow graph of the program. The paths through the control flow graph are referred to as "traces". Identifying paths through the control flow graph is not the same as or suggestive of creating a compressed memory reference trace as taught and claimed by the subject application. As detailed in the Background section of the present application, memory or address tracing has been used to track memory references in the course of program execution. What the present invention does is provide a way to generate compressed memory reference traces which are ordered according to the program control flow for better compression and decompression. As taught and claimed, the

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present method, program storage device and apparatus perform the steps of selecting a sequence of events in a control flow for said program, obtaining a sequence of memory reference values for each of the events during execution of the program, and compressing the values to generate a compressed sequence of values for each event, which is a compressed memory reference trace. Bacon neither teaches nor suggests creating a memory reference trace, let alone generating a compressed memory reference trace during program execution. Rather, Bacon simply identifies potential control flow paths in a program to be compiled. Further, the present invention orders the values of the compressed memory reference trace according to information in the selected sequence of events of the program control flow to generate an uncompressed trace of said program. Bacon does not teach or suggest any compression of its identified control flow paths.

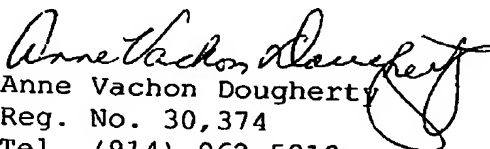
Anticipation under 35 USC 102 is established only when a single prior art reference discloses each and every element of a claimed invention. See: In re Schreiber, 128 F. 3d 1473, 1477, 44 USPQ2d 1429, 1431 (Fed. Cir. 1997); In re Paulsen, 30 F. 3d 1475, 1478-1479, 31 USPQ2d 1671, 1673 (Fed. Cir. 1994); In re Spada, 911 F. 2d 705, 708, 15 USPQ2d 1655, 1657 (Fed. Cir. 1990) and RCA Corp. v. Applied

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Digital Data Sys., Inc., 730 F. 2d 1440, 1444, 221 USPQ 385, 388 (Fed. Cir. 1984). Since the Bacon reference does not teach the claimed steps and means for creating a compressed memory reference trace, it cannot be concluded that Bacon anticipated the invention as claimed.

Based on the foregoing amendments and remarks, Applicants respectfully request entry of the amendment, reconsideration of the rejections, and issuance of the claims.

Respectfully submitted,  
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